

## CLAIMS

1. An interlacing device (10, 10') for a machine (1) which palletizes elongated products (2) that are designed to be deposited in superimposed rows on at least one transport pallet (7), characterized in that it comprises at least one interlacing gantry (11, 11') extending generally parallel to and along at least a portion of the length of said products (2), said interlacing gantry (11, 11') comprising at least one guide (20, 20') supplied by at least one spool (12) of interlacing material (12'), said interlacing device (10, 10') also comprising drive means connected to said interlacing gantry (11, 11') for displacing it between at least two alternate end positions so as to displace the guide (20, 20') in at least one interlacing plane (P) that is essentially perpendicular to said palletized products (2) alternately from one side to the other of said transport pallet (7).
2. An interlacing device according to claim 1 characterized in that the drive means cause said interlacing gantry (11, 11') to pivot alternately at least one time.
3. An interlacing device according to claim 1 characterized in that the drive means (14) cause said interlacing gantry (11, 11') to move in alternate translation at least one time.
4. An interlacing device according to claim 1 characterized in that the drive means (14) are selected from the group comprising at least electric motors (15), hydraulic and pneumatic cylinders.
5. An interlacing device according to claim 4 characterized in that the drive means (14) comprise at least one transmission system selected from the group comprising at least pinions and chain (16), pulley and belt.

6. An interlacing device according to claim 3 characterized in that it comprises at least one chassis (19) equipped with guide means for moving said interlacing gantry (11, 11') translationally.

7. An interlacing device according to claim 6 characterized in that the guide means comprises at least one pathway (18) formed in said chassis (19) to receive rollers (17) integral with vertical posts (11a) on said interlacing gantry (11, 11').

8. An interlacing gantry according to claim 1 characterized in that it comprises at least two guides (20, 20') located on said interlacing gantry (11, 11') to distribute at least two interlacing ties (12') in at least two essentially parallel interlacing planes (P) distributed along said palletized products (2).

9. An interlacing gantry according to claim 8 characterized in that at least one of the guides (20') is associated with activating means (21) which displace it in alternate translation along said interlacing gantry (11') for a predetermined distance (D) to displace the interlacing plane (P) essentially parallel to itself.

10. An interlacing device according to claim 9 characterized in that the activating means (21) are selected from the group comprising at least electric motors, hydraulic and pneumatic cylinders.

11. A palletizing machine (1) for elongated cylindrical products (2) comprising at least one gantry (3), one carrier (4) attached so that it moves in vertical translation along said gantry (3), at least one gripping device (5) attached so that it moves in horizontal translation on said carrier (4) and designed to remove said products (2) from a storage ramp (6) and deposit them on a transport pallet (7), characterized in that it comprises at least one interlacing device (10, 10') according to any

one of the preceding claims.

12. A palletizing machine according to claim 11 characterized in that said interlacing device (10, 10') comprises at least one interlacing gantry (11, 11') having dimensions that permit it to be integrated within the gantry (3) of the palletizing machine (1) below said gripping device (5) and outside said transport pallet (7) and said palletized products (2).

13. A palletizing machine according to claim 11 characterized in that said gripping device (10, 10') comprises means for controlling its drive means associated with said drive means for the palletizing machine (1) in order to displace said interlacing gantry (11, 11') alternately from one side of the transport pallet (7) to the other essentially parallel to the interlacing planes as the palletizing of the products (2) deposited on said transport pallet (7) progresses and according to a predetermined interlacing pattern.

14. A palletizing machine according to claim 11 characterized in that at least one of the guides (20') on the interlacing device (10') is associated with activating means (21) designed to displace it in alternate translation along said interlacing gantry (11') for a predetermined distance (D) so as to displace said corresponding interlacing plane (P) essentially parallel to itself.

15. A palletizing machine according to claims 13 and 14 characterized in that the control means are designed to control said means (21) for activating said guide (20') so as to wrap said interlacing material (12') around the posts (7') on said transport pallet (7) as palletization of the products (2) progresses and in a predetermined interlacing pattern.